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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,023	08/26/2003	Toshikazu Kobayashi	AD6910USNA	3504

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WILMINGTON, DE 19805

EXAMINER

HARAN, JOHN T

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 09/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

T.P

<b>Office Action Summary</b>	<b>Application No.</b> 10/648,023	<b>Applicant(s)</b> KOBAYASHI, TOSHIKAZU	
	<b>Examiner</b> John T. Haran	<b>Art Unit</b> 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2003.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/15/03, 2/4/04</u> | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-3, drawn to a process for laser welding plastic, classified in class 156.
  - II. Claims 4-5, drawn to a welded article, classified in class 428.
2. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process such as welding plastic objects together with the use of ultrasonic, vibration or microwave energy.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Mr. Arne Jarnholm on 8/30/05 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-3. Affirmation of this election must be made by applicant in replying to this Office action. Claims 4-5 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Information Disclosure Statement***

5. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

6. The information disclosure statements (IDS) submitted on 12/15/03 and 2/4/04 have been considered by the examiner. It is noted that on the IDS submitted 12/15/03. Applicant listed the incorrect number for the Muellich reference. The Examiner has corrected it to read the correct patent number – 5,893,959.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "relatively" in claim 1 is a relative term which renders the claim indefinite. The term "relatively" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the

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art would not be reasonably apprised of the scope of the invention. Furthermore the term "relatively" implies two things are being compared and it is not clear what is being compared.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koshida (WO 02/057353) in view of the admitted prior art and Cartier et al (US 2004/0116572).

Koshida teaches a method of laser welding a first polymeric object, which is transparent to laser radiation to a second polymeric object, which is opaque to laser radiation such that when the faying surfaces of the two objects are brought together and laser radiation is directed at the juncture of the faying surfaces the laser radiation passes through the first object and irradiates the faying surface of the second object causing a weld to form at the juncture (page 1, lines 12-17). Koshida teaches that the first polymeric object, which is transparent to laser radiation can be poly(ethylene terephthalate) (PET) and that it can include nucleating agents (page 7, lines 13-14; page 14, lines 5-10). Koshida is silent towards the nucleating agent absorbing no more than 7% of their weight in water, introducing sufficient nucleating agent to get the

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desired crystallization rate, or the first polymeric object having a transmittance of at least 15% of the laser radiation.

The admitted prior art teaches it is common to enhance the moldability of PET by adding nucleating agents in order to speed up crystallization. One skilled in the art would have readily appreciated adding a sufficient amount of nucleating agent to gain the desired crystallization rate in the method of Koshida.

Cartier et al teaches that sodium stearate is a known nucleating agent to add to PET (paragraph 0020, 0028), which the specification of the present application teaches has the desired water absorption properties and results in a PET composition that has the desired laser radiation transmittance (page 4, line 28 to page 5, line 9). One skilled in the art would have readily appreciated utilizing a known nucleating agent for PET in the method of Koshida. Furthermore, one skilled in the art would have readily recognized that only the expected/natural results would be achieved, meaning the PET would have a diffuse transmittance of at least 15% of the laser radiation.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a known nucleating agent in the method of Koshida, such as sodium stearate, as suggested in Cartier et al and to add a sufficient amount of the nucleating agent as to achieve the desired crystallization rate as suggest in the admitted prior art.

Regarding claims 2 and 3, Cartier et al teaches using sodium stearate as the nucleating agent and such has an average molecular weight less than about 5,000.

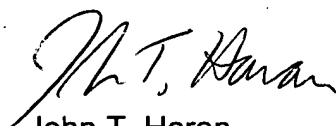
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***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John T. Haran whose telephone number is (571) 272-1217. The examiner can normally be reached on M-Th (8 - 5) and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John T. Haran  
Primary Examiner  
Art Unit 1733